Using Quality Improvement Methods to Improve Care

Patient Safety
Lecture no. 7

COLOR INDEX

- Main Text
- Important
- Male Slides
- Female Slides
- Dr's Notes
- Extra

Objectives:

- To describe the principles of quality improvement.
- To introduce the basic methods and tools for improving the quality of health care.
- To understand the benefits of using quality improvement methods.
- To apply the principles and use the tools to undertake their own improvement project.

This lecture was presented by Dr. Ranyah Aldekhyyel

For the required reading **from Blackboard** click here: I & II

The Purpose of **Quality Improvement Methods** (1, 2)

1. Identify a problem
2. Measure the problem
3. Develop a range of interventions designed to fix the problem
4. Test whether the interventions worked

The Science of Improvement

The role of measurement in improvement: (3)

- Measurement (collect & analyze data) is an essential component of quality Improvement.
- There is strong evidence to show that when people use the appropriate measures to measure change, significant improvements can be made.
- All quality improvement methods rely on measurement

Three main types of measures: (4)

Structure Measures → **Processes Measures** → **Outcomes Measures**

Type	Structure Measures Input Measures	Processes Measures	Outcomes Measures Output measures
Definition	Measures of infrastructures, capacity and system. Basically is what you do in place to support your process	They measure if parts of steps in the system are performing as planned	Are **results** of overall process or system performance, reflect the impact of the healthcare service
Example	Nursing to patient ratio in the ICU	Bed occupancy rate	The 30-day mortality rate (does the patient came back after discharge?)

Picturing The Data

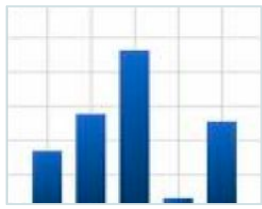
- After you measure and have your data. How do you want to present/picture these measures?
- There are many valuable tools for interpreting & presenting data. Type of graph:

1. Bar chart
2. Pie chart
3. Line chart

Type of graphs

Bar chart

- Bar charts are one of the most commonly used types of graph.
- The bar chart displays data using a number of bars, each representing a particular category.
- useful for looking at a set of data and making comparisons.

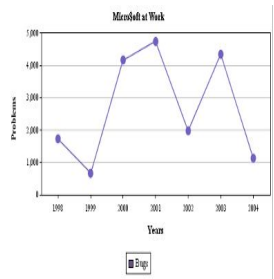


Pie chart

- A pie chart is a circular graph that shows the relative contribution that different categories contribute to an overall total.
- It's not recommended to use pie chart if you have >6 category -use bar chart-

Line chart

- A line graph, also known as a line chart, is a type of chart used to visualize the value of something over time.
- Used when you try to mark change that are happening within a specific course of time



Performance Improvement Method

4 Method

- Focus PDCA
- RCA
- QIP
- BRAIN STORMING

Improvement model PDCA (Plan-do-study-act cycle)

◎ The IHI model has two parts:

1. Three fundamental questions, which can be addressed in any order
2. The PDSA cycle to test and implement changes in real world settings, the PDSA cycle guides the test of a change to determine if the change is an improvement.

Plan	Define the problem to be addressed, collect relevant data, and ascertain the problem's root cause.
Do	Develop and implement a solution; decide upon a measurement to gauge its effectiveness.
Study	Confirm the results through before-and-after data comparison.
Act	Document the results, inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle.

Performance Improvement Method
cont…

Root cause analysis (RCA) (ishikawa/fishbone)

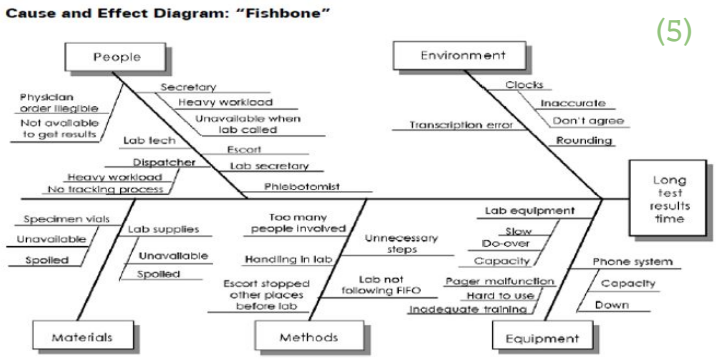
Is a defined process that seeks to explore all of the possible factors associated with an incident by asking what happened, why it occurred and what can be done to prevent it from happening again.

A tool for solving problems. The diagram is used to explore and display the possible causes of a certain effect

An effective root cause analysis requires the following components:

Multidisciplinary Team to come up with these category

The team develops a problem statement



(5)

Root cause analysis effort is directed towards finding out what happened

- Documentation and review (medical records, incident forms, hospitals guidelines, literature review.
- Site visit to examine the equipment, the surroundings and observe the relationships of the relevant staff

Establishing the contributing factors or root causes are accomplished through A brainstorming process of all possible factors:

Environmental factors	e.g. The work environment; medico-legal issues
Organizational factors	e.g. Staffing levels; policies; workload and fatigue
Team staff factors	e.g. Supervision of junior staff; availability of senior doctors
Individual staff factors	e.g. Level of knowledge or experience
Task factors	e.g. Existence of clear protocols and guidelines
Patient factors	e.g. Distressed patients; communication and cultural barriers between patients and staff; multiple co-morbidities.

You are not supposed to have all these factors. You may have 2 of them or all. This is based on the problem that you trying to target

Performance Improvement Method cont…

Quality Improvement Plan (QIP)

A Quality Improvement Plan is a detailed work plan intended to enhance an organization's quality in a specific area

Quality Improvement Plan includes essential information about how your organization will design, implement, manage, and assess quality.

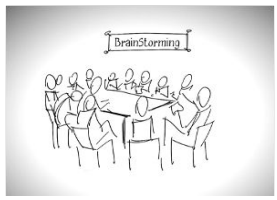
TEAM _____
QUALITY IMPROVEMENT PLAN

AREAS FOR IMPROVEMENT	CRITICAL ACTIONS TO TAKE	TIME FRAME	PEOPLE INVOLVED	GOAL	RESPONSIBILITY	INDICATOR (EVALUATION TOOL)	RESULTS	HOW TO HOLD THE GAINS (NEXT STEP)

Brain storming

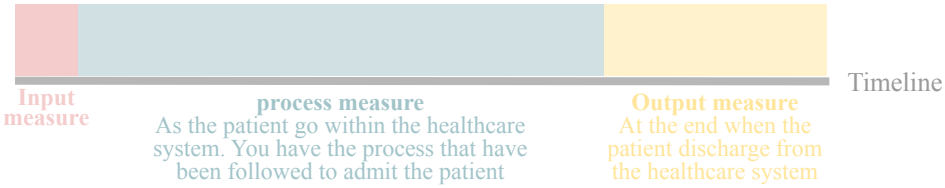
Brainstorming is a technique by which a group attempts to find a solution(s) to a specific problem by amassing ideas spontaneously

It is a highly effective technique for maximizing group creative potential.



Dr.'s Notes

1. The most important point to understand from this lecture is **Why do we conduct/apply Quality Improvement Method if hospitals?**
   Answer: to investigate what the cause of a problem within the system in order to increase the patient safety. (**NOTE:** the answer should not be improving patient safety only, because every thing you do within a quality is to improve patient safety & quality of patient care -this answer is general and vague-. So when we ask this question **within** patient safety is because we try to find out specific thing. And in this lecture we will study how to apply quality improvement method within healthcare)
2. **1st:** Identify a problem within a system. So we do this to investigate for the main problem this is causing lack of quality or patient safety issue
   2nd: Measure the problem; how and when is it happening? Is it happening in the past 3 month, year? Is it happening in specific department or within specific team?
   3rd: Develop a range of interventions designed to fix the problem
   4th: Test whether the interventions worked within small scale. If it work then apply it to the whole general population
3. You can NOT correct what you can't measure. So measurement is very important because the understand of the scope of a problem is based on measurement and fact. You need to measure to try to identify what the problem is.
4. These measures are basically taken based on the timeframe of your process. E.g.



5. This method basically focuses on ensuring that you have specific category that represent your problem (environment, people, equipment, etc.), so this picture is an example of a problem "Why we have long test result time?", then as a group we want to come up with "What are the causes of having this problem?" and when you answering this question you don't rely in your thought or prediction, you actually rely on information/data that you are collecting from the unit

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